

What is claimed is:

1. A protective helmet apparatus for providing patient cranial support during surgery, which may be assembled from a plurality of cooperatively engageable components of differing dimensions for achieving optimum fit and pressure diffusion upon face of the intended helmet wearer comprising:

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a cushion, said cushion having a front portion and two sidewalls extending upward from said front portion, said cushion having a interior surface and an exterior surface;

said interior surface of said cushion dimensioned to accommodate the facial structure of a human being;

at least one cushion ocular aperture in said cushion communicating laterally across said front portion and continuing up at least one of said sidewalls, said ocular aperture providing communication between said interior surface and said exterior surface;

a viewing passage formed by said ocular cushion aperture, said viewing passage providing a view through at least one of said sidewalls, wherein the eye and facial temple area and the eye of a patient wearing said cushion while in the prone position, may be seen though said viewing passage from a position adjacent to at least one of said sides.

2. The device as in claim 1 wherein said exterior surface of said cushion dimensioned for cooperative registered engagement with the interior of a helmet casing whereby said cushion is removably positionable on one of a helmet casing or a mounting surface in a position to provide support to the head of a patient undergoing surgery.

3. The protective helmet apparatus as defined in claim 2 further comprising:

a helmet casing for use in combination with said cushion, said helmet casing having a casing front wall and two casing sidewalls, each of said sidewalls attached at a first edge to said front wall extending generally vertically therefrom to an upper edge of said sidewalls, said helmet casing having a casing interior surface and a casing exterior surface;

means for registered cooperative engagement of said cushion with said helmet casing;

at least one casing ocular aperture in said helmet casing communicating between said casing interior surface and said casing exterior surface, said casing ocular aperture shaped substantially similar to said cushion ocular aperture, and positioned in said helmet casing to align with said cushion ocular aperture when said cushion is in said registered cooperative engagement with said helmet casing, whereby said viewing passage extends through said casing ocular aperture when said cushion is in registered cooperative engagement with said helmet casing; and

means for removable attachment of said helmet casing to a fixed position on a mounting surface.

4. The protective helmet apparatus as defined in claim 3 wherein said means for registered cooperative engagement of said cushion with said helmet casing comprises one or a combination of means for registered cooperative engagement from

a group consisting of, said casing interior surface dimensioned for frictional engagement with said exterior surface of said cushion, adhesive, a lip positioned on said cushion in a position for operative engagement with the upper edges of said ^{NA which sidewall} sidewalls, and registration pins affixed to said exterior surface of said cushion cooperatively engageable with registration apertures located in said interior surface of said helmet casing.

5. The protective helmet apparatus as defined in claim 4 wherein said means for registered cooperative engagement of said cushion with said helmet casing is a plurality of said registration pins extending from the exterior surface of said cushion, said registration pins dimensioned to cooperatively engage axial passages communicating through said casing.

6. The protective helmet apparatus as defined in claim 3 wherein said means for attachment of said helmet casing to said mounting surface comprises a plurality of legs extending from the exterior surface of said helmet casing, the distal ends of said plurality of legs configured for cooperative engagement with a mount, said mount attachable to said mounting surface.

7. The protective helmet apparatus as defined in claim 3 further comprising:

a chin aperture communicating through said front portion of said cushion, said chin aperture communicating between said interior surface and said exterior surface of said cushion, and

a nasal cavity defined by the perimeter of said chin aperture and the wall surface of said chin aperture.

8. The protective helmet apparatus as defined in claim 7 further comprising a casing chin aperture in said casing front wall said casing chin aperture communicating between said casing interior surface and said casing exterior surface, said casing chin aperture shaped substantially similar in shape to said cushion chin aperture and positioned to align with said cushion chin aperture when said cushion is in said registered engagement with said helmet casing; and

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 said nasal cavity communicating from said interior surface of said cushion to said exterior surface of said casing thereby forming a tube passageway.

9. The protective helmet apparatus as defined in claim 8 wherein said cushion chin aperture and said cushion ocular aperture communicate to form a single cushion aperture communicating through said cushion,

 said casing chin aperture and said casing ocular aperture communicating to from a single casing aperture substantially the same in shape as said single cushion aperture; and

 said single cushion aperture and said single casing aperture are substantially in line when said cushion placed in said cooperative engagement with said helmet casing.

10. The protective helmet apparatus as defined in claim 3 further comprising a means for elevation of said helmet casing above said mounting surface.

11. The protective helmet apparatus as defined in claim 6 wherein said mount comprises

a mounting plate, said mounting plate having an upper surface and a lower surface;

means of attachment of said lower surface to a determined position on said mounting surface; and

a plurality of couplings affixed to said upper surface of said mounting plate in positions to register with said distal ends of said plurality of legs, said couplings dimensioned for cooperative engagement with the distal end of said legs, whereby said legs may be removably mounted to said couplings in a cooperative registered engagement therewith.

12. The protective helmet apparatus as defined in claim 3 wherein said cushions are in a kit of variably sized cushions to accommodate a variety of head sizes each of said cushions in said kit configured for cooperative registered engagement with said helmet casing whereby said combination of said helmet casing and said cushion may be fitted to a variety of different sized patients having different physical characteristics and may be assembled from said collection of interchangeable cushions.

13. The protective helmet apparatus as defined in claim 10 wherein said means for elevation of said helmet casing above said mounting surface comprises a plurality leg extensions chosen from a kit of said leg extensions of varying length, each of said leg extensions configured for cooperative engagement between the distal end of said legs and said couplings, whereby the resulting elevation of said helmet above said mounting surface may be adjusted using longer or shorter leg extensions.

14. The protective helmet apparatus as defined in claim 11 wherein said mount additionally comprises, a mirrored surface affixed to said mounting plate, thereby providing a means for upright individuals standing adjacent to said protective head ¹⁴ apparatus to view the ocular area of the patients face reflected in the mirrored surface by looking downward at said mirrored surface.

15. The protective helmet apparatus as defined in claim 13 further comprising a means for angular adjustment of said mirrored surface in relation to said mounting plate, whereby the angle of said mirrored surface may be adjusted to the optimum angle for viewing said ocular area.

16. The protective helmet apparatus as defined in claim 13 further comprising a means for illumination, said means for illumination attached to one of said helmet casing or said mounting plate, said means for illumination positioned to

illuminate the face of said patient.

17. The protective helmet apparatus as defined in claim 3 further comprising:

means for heating the head of the patient attachable to said helmet casing.

18. The protective helmet apparatus as defined in claim 17 wherein said means for heating the head of a patient, is an electrical resistive heating element, attached to the interior surface of said helmet casing.

19. The protective helmet apparatus as defined in claim 15 herein said means ND for heating the head of a patient is an electrical resistive heating element mounted on a blanket which is attachable to one of said upper edges of said side walls, whereby said blanket may be folded over the patients head when said head is operatively occupying said protective helmet apparatus.

20. The protective helmet apparatus as defined in claim 3 wherein said helmet casing is constructed of substantially transparent material thereby affording a view into the ocular cushion aperture through the sidewall and front wall surfaces of the helmet casing.

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21. The protective helmet apparatus as defined in claim 3
additionally comprising at least one tube passageway
communicating through said helmet casing.

22. The protective helmet apparatus as defined in claim 3
wherein said helmet casing is adhered to said exterior surface
of said cushion into a unitary structure.

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